DOCUMENT RESUME

ED 234 328 CG 016 922

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TITLE The Clinical Validity of the MMPI-168.
PUB DATE Mar 83
NOTE 14p.; Paper presented at the Annual Meeting of the Southeastern Psychological Association (29th, Atlanta, GA, March 23-26, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Testing; *Diagnostic Tests; Interrater Reliability; *Personality Measures; *Predictive Validity; Psychologists; *Screening Tests; *Test Validity
IDENTIFIERS *Minnesota Multiphasic Personality Inventory; *MMPI 168; Symptoms

ABSTRACT

Of the many short forms of the Minnesota Multiphasic Personality Inventory (MMPI) that have been developed, the MMPI-168 is among the most promising. To determine whether clinical judgments based on the MMPI-168 are comparable to judgments based on the standard MMPI, 30 clinical psychologists participated in a randomized block, repeated treatment design. Clinicians were randomly matched in 15 pairs; clinicians within each pair were given the MMPI data from the same three patients and asked to rate these patients using the 18 items of the Overall and Gorham (1962) Brief Psychiatric Rating Scale and to decide upon their diagnosis. For one patient, both clinicians within a pair received MMPI profiles based on the full MMPI. For the second patient, one clinician received a standard MMPI profile while the other received an MMPI-168 profile. For the third patient, both clinicians were given MMPI-168 profiles. This design was replicated across all 15 clinician pairs and no two pairs were given data from the same patients. In general, results suggested that predictions of symptom severity derived from the short and standard form were comparable. However, the findings also suggested a sufficient level of discordance between MMPI-168 derived diagnosis and diagnoses derived from the standard form. Thus, equivalence of the short and standard forms for diagnostic work remains questionable. (Author/JAC)

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The Clinical Validity of the MMPI-168[1,2]

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CG 016922

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Abstract

The current study was designed to determine if clinical judgements based on the MMPI-168 are comparable to judgements based on the standard MMPI. Thirty Ph.D. level clinical psychologists were employed in a randomized block, repeated treatment design for the purpose of this investigation. These clinicians were initially randomly matched into 15 pairs. Subsequently, clinicians within each pair were given MMPI data from the same three patients and asked both to rate these patients using the 18 items of the Overall and Gorham (1962) Brief Psychiatric Rating Scale (BPRS) and to decide upon their diagnoses. For one patient both clinicians within a pair received MMPI profiles based on the full MMPI. For the second patient, one clinician received a standard MMPI profile while the other received an MMPI-168 profile. For the third patient, both clinicians were given MMPI-168 profiles. This design was replicated across all 15 clinician pairs and no two pairs were given data from the same patients. Randomized block repeated treatment analyses of variance performed on the BPRS ratings, with one exception, revealed non-significant F ratios. Results, however, suggested that for diagnostic judgements the MMPI-168 may not be comparable to the standard MMPI. Implications of these findings are discussed and comparisons with previous research are made.

Of the many short forms of the Minnesota Multiphasic Personality Inventory (MMPI) that have been developed, the MMPI-168 is, perhaps, the most promising. Several studies (Hedlund, Won Cho & Powell, 1975; Newmark, Newmark & Cook, 1975; Overall & Gomez-Mont, 1974) have suggested that MMPI-168 T-scores reliably estimate standard form MMPI scores. In addition, investigations employing computer effected discriminant functions (Overall, Butcher & Hunter, 1975; Overall, Higgins & De Schweinizt, 1976) have shown that the MMPI-168 is equivalent to the standard MMPI in discriminating among diagnostic groups. Finally, comparative research has shown the MMPI-168 to be equal or superior to most other short forms both in estimating standard form T-scores (Hoffman & Butcher, 1975; Newmark, Ziff, Finch & Kendall, 1978), and in producing clinical judgements that are comparable to those derived from the full MMPI (Newmark, Ziff, Finch & Kendall, 1978).

While these studies are encouraging, the reports designed to document the validity of the MMPI-168 have been limited both in number and focus. Little research has been conducted to determine whether this short form, when in the hands of experienced clinicians, leads to clinical predictions similar to those derived from the standard MMPI. Further, most short form validity studies have employed psychiatric diagnosis as the sole validity criterion. While this criterion measure certainly is relevant, it is rather limited since MMPI data are typically employed in clinical descriptions and behavioral prediction as well as in diagnostic work. Hence, the current study was effected to address these deficiencies in the literature. Specifically this study employed a sample of clinicians to determine if the MMPI-168 and standard MMPI result in comparable clinical

predictions about a variety of specific symptoms and patient diagnosis.

Method

Subjects

Thirty Ph.D. level clinical psychologists, experienced in the use and interpretation of the MMPI, were selected as subjects for this study. These clinicians were drawn from a variety of work settings including hospitals (53.3%), universities (16.7%), private practice (16.7%), prisons (10.0%) and other settings (3.3%). Twenty six of these clinicians were men and four were women. The mean age of the sample was 38.4 years and the range was 28 to 63 years. The amount of post-Ph.D. clinical experience was 1-5 years for 36.7% of the sample, 5-10 years for 20% of the sample, 10-20 years for 36.7% of the sample and more than 20 years for 6.7% of the sample. While all subjects reported having interpreted at least 50 MMPI's in their careers, their experiences varied appreciably. Four (13.3%) reported having interpreted between 50 and 200 MMPI's, 12 (40.0%) reported having interpreted between 200 and 500 MMPI's, 5 (16.7%) reported having interpreted between 500 and 1000 MMPI's, and 9 (30.0%) reported having interpreted over 1000 MMPI's in their careers.

Patients

The MMPI data used in this study were obtained from 45 men who had been administered the MMPI during a psychiatric admission to the Durham, N.C., Veterans Administration Medical Center between 1977 and 1981. The mean age of these patients was 41.2 years and the range was 20 to 67 years. Thirty three of these men were white

and 12 were black. Psychiatric diagnoses of these patients varied considerably and included Schizophrenia (15.6%), Affective Disorder (48.9%), Anxiety Disorder (6.7%), Somatoform Disorder (2.2%) and Personality Disorder (26.7%).

Symptom Rating and Diagnostic Questionnaire

The dependent measures for this study were incorporated into this 19-item questionnaire. The first 18 items represented a modified version of the Overall and Gorham (1962) Brief Psychiatric Rating Scale (BPRS). The original BPRS consists of factor analytically derived symptom clusters which are presented as 18 separate rating scale items, each accompanied by a brief definition and a 7-point Likert Scale for rating symptom severity. The current questionnaire included these 18 BPRS items but the 7-point Likert Scale was replaced by a 4-point (0-3) scale. Further, the four levels of these scales were accompanied by the descriptors not present (0), Mild (1), Moderate (2), and Severe (3). These descriptors were employed since they are commonly used in clinical practice to describe symptom severity. Operational definitions of these four descriptors were provided on the face sheet of the current questionnaire to enhance reliability.

The nineteenth item of the current questionnaire was a multiple choice item for indicating patient diagnosis. This item included as choices eight DSM-III[3] major diagnostic categories including Schizophrenic Disorder, Paranoid Disorder, Affective Disorder, Anxiety Disorder, Somatoform Disorder, Dissociative Disorder, Personality Disorder and Adjustment Disorder. The specific disorders included within each of the broad categories were listed adjacent to each category.

Procedure

To obtain a sample of clinical psychologists to participate in this study, the investigators mailed a brief letter designed to solicit participation to each of 60 clinicians who either resided in communities near the site of this study or who had been previous colleagues of the investigators. In response to these letters, 30 clinicians mailed replies indicating a willingness to participate.

After this group of volunteers was obtained, they were first randomly divided into 15 pairs. Subsequently, clinicians within each pair were mailed MMPI profiles from the same three patients and asked to complete a copy of the Symptom Rating and Diagnostic Questionnaire for each patient. For one patient, both clinicians were mailed MMPI profiles based on the full MMPI. For the second patient, one clinician received a profile based on the full MMPI while the other received an MMPI-168 profile obtained by a rescoring of the same test protocol. For the third patient, both clinicians received an MMPI-168 derived by rescoring the patient's standard MMPI. This design was replicated across all 15 pairs of clinicians and no two pairs were given data from the same patients. The MMPI test data from the 45 patients employed in this study were randomly drawn from the psychology service testing files of the Durham Veterans Administration Medical Center. To assist the clinicians in their blind interpretations, information about each patient's age and race was included on the MMPI profile sheets.

To assure adequate experimental control patients were randomly assigned within and across clinician pairs and the decision as to whether a particular clinician rated two standard and one short form or two short and one standard form MMPI was made on a random basis.

Further, all profiles were drawn on new profile sheets, omitting raw scores to keep clinicians blind as to the type of profile they were rating. Additionally, clinicians were not informed about the nature and design of the study before participating in it. Finally, clinicians were not debriefed until all clinicians had returned their standardized interpretations to the investigators.

Once all standardized interpretations were received and debriefing was completed, data analyses were begun. Initially the numerical differences between matched clinicians' ratings of each patient were calculated for each of the 18 BPPS symptoms. These difference scores were then converted into absolute (unsigned) values for the purpose of statistical analysis. A 3 (long-long vs long-short vs short-short) x 15 (clinician pairs) randomized block, repeated treatment analysis of variance was conducted on the set of absolute difference scores for each of the 18 BPRS items. These analyses were conducted to determine if the symptom severity ratings derived from the MMPI-168 differed significantly from similar ratings derived from the full MMPI.

Following these analyses the nineteenth item of the Symptom Rating and Diagnostic Questionnaire was analyzed to determine if the percentage of diagnostic agreements between matched clinicians varied as a function of the MMPI form (short vs long) they interpreted. To perform this analysis matched clinicians' diagnoses of each patient were coded as an agreement or disagreement based on clinicians' responses to the final questionnaire item. Cochran's (1950) Q statistic was then employed to determine if the percentage of diagnostic agreements varied significantly across the three experimental conditions (long-long; long-short; short-short).

Results

BPRS Symptom Ratings

Of the 18 separate randomized block analyses computed, only one reached significance at the $p<.05$ level. This one significant finding was obtained in the analysis of BPRS item number 8 which measures symptoms of grandiosity. Interestingly a Duncan Multiple Range test revealed that grandiosity ratings obtained from two clinicians evaluating the MMPI-168 were significantly less different than such ratings obtained from two clinicians evaluating the standard length MMPI. However, grandiosity ratings obtained from two clinicians evaluating the standard MMPI were not any more similar than such ratings obtained from two clinicians evaluating different forms (MMPI-168 vs standard form) of the MMPI. The findings obtained from this a posteriori analysis as well as the remainder of the nonsignificant results suggest that differences obtained between ratings of short and standard form MMPI's are likely to be no greater than the difference observed when two independent clinicians are rating the same standard MMPI. Further, these findings suggest that the difference observed between two clinicians rating the MMPI-168 is no greater than the difference observed between these same clinicians rating the full length MMPI.

Diagnostic Agreements

Analysis of the diagnostic data like the BPRS data analyses revealed no significant differences across the three experimental conditions (Q 2df = 2.91 $p>10$). Hence, the percentage of diagnostic agreements between matched clinicians did not vary significantly as a function of the form they interpreted. However, a review of the raw data suggested that clinicians agreed in their diagnostic choices 67% of the time when they both interpreted the standard MMPI but only 33% of the time when they

interpreted different forms of the MMPI. Further, their diagnoses agreed only 46.7% of the time when they both interpreted the MMPI-168. Consequently use of the MMPI-168 may result in somewhat greater diagnostic disagreement than use of the standard MMPI.

Discussion

The current study was effected to determine whether clinicians' predictions derived from MMPI-168 scores would be comparable to similar predictions derived from the standard MMPI. Specifically an attempt was made to determine the comparability of the MMPI-168 and standard MMPI in leading to clinical predictions about specific symptoms as well as about patient's psychiatric diagnoses. In general results suggested that predictions derived from the short and standard form were comparable. However, findings also suggested a sufficient level of discordance between MMPI-168 derived diagnoses and diagnoses derived from the standard form. Hence, equivalence of the short and standard forms for diagnostic work remains questionable.

In regard to the prediction of specific symptom severity, results were most promising in suggesting the comparability of the standard form and MMPI-168. In fact, none of the analyses suggested the MMPI-168 resulted in clinical judgements that were significantly different from those derived from the MMPI. Hence, the study was successful in demonstrating that "when in the hands" of experienced clinicians, the MMPI-168 is comparable to the full MMPI for making clinical judgements about a wide range of specific symptoms. Hence, when the task required is that of making decisions about the kinds of symptoms studied herein, substitution of the MMPI-168 for the full version seems defensible.

However, in the more complex process of psychiatric diagnosis, use of the MMPI-168 seems more questionable. While an analysis of the diagnostic data revealed no statistical significance, the degree of diagnostic disagreement observed between short and standard form seems noteworthy. The fact that clinicians rating alternate forms of the MMPI agreed on a patient's major diagnostic category only 33% of the time, suggests that the MMPI-168 cannot be confidently substituted for the standard form in diagnostic work. Hence, the current results cannot be viewed as strongly supportive of the comparability of MMPI-168 and standard MMPI in diagnostic decision making.

This conclusion is interesting particularly when considering results of previous studies. As previously mentioned, several authors (Overall et al., 1975; Overall et al., 1976) found that the MMPI-168 was comparable to the full MMPI in predicting psychiatric diagnosis. However, the current study differed methodologically from the Overall et al studies in that the current study employed clinicians while the Overall et al employed a computer assisted statistical procedure to predict diagnosis. Whether a computer "interprets" an MMPI the same way as a clinician does seems highly questionable. Hence, while the Overall et al findings are interesting, the results of the current study seem more directly applicable to the typical clinical situation.

In summary, the current study supported use of the MMPI-168 for predicting a range of specific symptoms but suggested it may not be comparable to the full MMPI in diagnostic work. These results seem particularly interesting and applicable to the applied clinical situation since a sample of clinical psychologists was employed as subjects. While the study was admittedly limited by the relatively small sample size, it does represent an advance over previous studies that failed

to employ clinician subjects in tests of particular short forms. As noted previously (Edinger, 1981) studies like the current one are mandatory if a short form such as the MMPI-168 is to prove itself a viable clinical tool.

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Footnotes

1. Requests for reprints should be directed to Jack D. Edinger, Ph.D., Psychology Service, Veterans Administration Medical Center, Durham, N.C. 27705.

2. The authors would like to express their appreciation to Ms. Gill Lunsford and Ms. Marguerite Thweatt for their assistance in the typing of this manuscript.

3. The Diagnostic and Statistical Manual, third edition, published by the American Psychiatric Association.